

WHAT IS CLAIMED IS:

1. A full color organic EL display panel comprising:
first, second and third pixels;
5 a plurality of first electrodes; and
a plurality of second electrodes perpendicularly intersecting said first
electrodes;

wherein each of said first, second and third light emitting pixels is arranged in
each of intersecting positions of said first and second electrodes;
10 wherein each of said first, second and third light emitting pixels has the area
different from one another according to luminous efficiency.

2. A full color organic EL display panel according to claim 1, wherein each of
said first light emitting pixels is arranged colinearly with each of said second light
15 emitting pixels; wherein each of said third light emitting pixels is arranged between
each of said first and second light emitting pixels to alternate with each of said first and
second light emitting pixels.

3. A full color organic EL display panel according to claim 1, further
20 comprising auxiliary electrodes arranged at least around said first, second and third light
emitting pixels and in portions of said first electrodes.

4. A full color organic EL display panel according to claim 1, further
comprising insulating layers, wherein each of said auxiliary electrodes is arranged at
25 least one of around each of said first, second and third light emitting pixels and a central

portion of each of said third light emitting pixel.

5 5. A full color organic EL display panel according to claim 1, further comprising partitions arranged among said second electrodes for electrically insulating said second electrodes.

10 6. A full color organic EL display panel according to claim 1, further comprising: encapsulating plates for encapsulating organic EL layers arranged on said first, second and third light emitting pixels; and an encapsulating material for bonding said encapsulating plates to a substrate in non-light emitting areas.

15 7. A full color organic EL display panel according to claim 1, wherein said first electrodes have zigzag-shaped electrodes having partitions inclined at a certain angle for connecting between each of said first light emitting pixels and each of said second light emitting pixels, and stripe shaped electrodes for connecting between each of said third light emitting pixel.

20 8. A full color organic EL display panel according to claim 7, wherein said partitions are arranged so as not to overlap with corner portions of said third light emitting pixels.

25 9. A full color organic EL display panel according to claim 1, wherein said third light emitting pixels have the area larger than that of said first or second light emitting pixels.

10. A full color organic EL display panel according to claim 1, wherein said first, second and third light emitting pixels have quadrangular structures which are the same or different from one another.

5 11. A full color organic EL display panel according to claim 1, wherein said first, second and third light emitting pixels are arranged into a delta structure.

12. A full color organic EL display panel according to claim 1, wherein said first electrodes are transparent; and wherein said second electrodes are made of metal.

10 13. A method of manufacturing a full color organic EL display panel which includes first, second and third pixels, a plurality of first electrodes, and a plurality of second electrodes perpendicularly intersecting the first electrodes, in which each of the first, second and third light emitting pixels is arranged in each of intersecting positions
15 of the first and second electrodes, said method comprising the following steps of:

(a) forming the first electrodes on a substrate, wherein the first electrodes include stripe-shaped electrodes for connecting between each of the third light emitting pixels, and zigzag-shaped electrodes having partitions inclined at a certain angle for connecting between each of the first light emitting pixels and each of the second light
20 emitting pixels;

(b) forming insulation partitions in areas excepting the light emitting pixels perpendicular to the first electrodes to insulate the first, second and third light emitting pixels;

(c) forming organic EL layers on the first, second and third light emitting pixels
25 for emitting lights corresponding to the light emitting pixels respectively; and

(d) depositing an electrode material on the whole surface including the organic EL layers to form a plurality of second electrodes.

14. A method of manufacturing a full color organic EL display panel according to claim 13, further comprising the step of forming auxiliary electrodes at least around the light emitting pixels and in portions of the first electrodes.

15. A method of manufacturing a full color organic EL display panel according to claim 13, wherein said step (a) includes the step of forming insulation layers at least around the first, second and third light emitting pixels and in central portions of the third light emitting pixels.

16. A method of manufacturing a full color organic EL display panel according to claim 13, wherein said step (c) uses a shadow mask in forming the EL organic layers on the first, second and third light emitting pixels while moving the shadow mask, wherein each of the EL organic layers emit a light corresponding to each of the first, second and third light emitting pixels.

17. A full color organic EL display panel comprising:
a unit light emitting pixel having first, second and third pixels;
a plurality of first electrodes; and
a plurality of second electrodes perpendicularly intersecting said first electrodes;

wherein each of said first, second and third light emitting pixels is arranged in each of intersecting positions of said first and second electrodes;

wherein said unit light emitting pixel has sub-pixels divided along diagonal directions; and

wherein each of said first, second and third light emitting pixels is arranged in each of said sub-pixels with an area different from one another according to the luminous efficiency of each of said first, second and third light emitting pixels.

18. A full color organic EL display panel according to claim 17, wherein said first light emitting pixel is positioned in a pair of said sub-pixels opposed along one diagonal direction; and wherein each of said second and third light emitting pixels is positioned in another pair of said sub-pixels opposed along another diagonal direction.

19. A full color organic EL display panel according to claim 18, wherein said first light emitting pixel has the luminous efficiency lower than that of said second and third light emitting pixels.

20. A full color organic EL display panel according to claim 17, wherein each of said first electrodes is formed under each of said first, second and third light emitting pixels and each of connected portions of said first, second and third light emitting pixels.

21. A full color organic EL display panel according to claim 20, further comprising auxiliary electrodes formed on the first electrodes at the connected portions.

22. A full color organic EL display panel according to claim 21, further comprising auxiliary electrodes formed in edge portions of said first, second and third

light emitting pixels.

23. A full color organic EL display panel according to claim 17, further comprising insulation layers formed in non-light emitting areas around said first, second
5 and third light emitting pixels.

24. A full color organic EL display panel according to claim 17, further comprising insulation partitions formed among said second electrodes for electrically
10 insulating said second electrodes.

25. A full color organic EL display panel according to claim 17, further comprising: encapsulating plates for encapsulating organic EL layers arranged on said
15 first, second and third light emitting pixels; and an encapsulating material for bonding said encapsulating plates to a substrate in non-light emitting areas.

26. A full color organic EL display panel according to claim 17, wherein said first electrodes are transparent lower electrodes; and wherein said second electrodes are
upper electrodes made of metal.

27. A method of manufacturing a full color organic EL display panel which
20 includes unit light emitting pixels having first, second and third pixels, a plurality of first electrodes, and a plurality of second electrodes perpendicularly intersecting the first electrodes, in which each of the first, second and third light emitting pixels is arranged in each of intersecting positions of the first and second electrodes, said method
25 comprising the following steps of:

(a) forming first electrodes on a substrate in a repeated pattern having a certain polygonal shape connected to stripe shape;

(b) forming insulation partitions among the unit light emitting pixels adjacent to the first electrodes in the perpendicular direction;

5 (c) forming organic EL layers on the first, second and third light emitting pixels for emitting lights corresponding to the first, second and third light emitting pixels respectively; and

(d) depositing an electrode material on the whole surface including the organic EL layers to form a plurality of second electrodes.

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28. A method of manufacturing a full color organic EL display panel according to claim 27, wherein said step (a) includes the step of forming auxiliary electrodes in the first electrodes formed in the connecting portions of the first, second and third light emitting pixels and formed in edge portions of the first, second and third light emitting
15 pixels, wherein the auxiliary electrodes have resistance lower than that of the first electrodes.

29. A method of manufacturing a full color organic EL display panel according to claim 27, wherein said step (a) includes the step of forming insulation layers in
20 non-light emitting areas around the first, second and third light emitting pixels.

30. A driving circuit of a display device having anode and cathode lines, comprising:

an anode circuit for outputting a different drive voltage for each of RGB light
25 emitting pixels so as to correspond to the drive voltage varying according to the line

resistance and the material features of the anode lines and the cathode lines;

a cathode circuit connected to both ends of the cathode lines for outputting the same signals; and

5 a display unit where the area ratio of each of the RGB light emitting pixels and the width of the anode lines are adjusted according to the features of the applied drive voltage.

31. A driving circuit of a display device according to claim 30, wherein said cathode circuit is arranged at the both sides of the cathode lines for applying the same
10 signals to the display unit.

32. A driving circuit of a display device according to claim 30, wherein the area ratio of each of the RGB light emitting pixels is 3:6:1.